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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09-619,547	07/19/2000	Masaru Ozawa	SIP-106-A	1853

21828 7590 05/21/2003

CARRIER BLACKMAN AND ASSOCIATES
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NOVI, MI 48375

EXAMINER

SCHEUERMANN, DAVID W

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,547

Applicant(s)

OZAWA ET AL

Examiner

David W. Scheuermann

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 10 and 16-24 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

Amendment B filed on March 6, 2003 has been entered. In response to the remarks regarding the admitted prior art rejection on page 3, the examiner disagrees that the conventional winding of Figures 15-16 do not have a *multi-layered* construction. Evidence patent US 3995364 in figure 4 and 1 show windings substantially identical to applicants' figure 15 and 16, respectively. The '364 reference in column 2 lines 6-9, clearly state that the coil shown in figure 1 is *multi-layer*. Furthermore Kenjo et al., in their book "Permanent-Magnet and Brushless DC Motors," show on page 47, figure 3, a coil of *multi-layered* construction that correspond substantially to applicants' figure 16. The examiner has labeled "inside" and "outside" in figure 3 to clearly show the *multi-layered* construction which is present in both applicants' figure 16 and figure 3 of Kenjo et al., yet more clearly depicted in figure 3 of Kenjo et al. Consequently, the evidence shows that the applicants' figure 15 and 16 do in fact depict a *multi-layered* construction.

As to the remarks concerning claim 17, which depends on claim 3, that approximately U-shaped bent back portions of the turns are not found in Marchegiani, a careful reconsideration has revealed that this limitation is found in the base reference, admitted prior art figures 15 and 16. Would "U-shaped bent back portions" be limited to the wire having parallel portion immediately adjacent the bend or could they include a "V" shape with a non-parallel portion following the bend? Does the applicants'

representative agree that "approximately U-shaped bent back portions," is sufficiently broad enough to read on the "V" shaped end turns shown in applicants' prior art figures 15 and 16? It is the examiners opinion that "approximately U-shaped bent back portions," are depicted in applicants' prior art figures 15 and 16.

The remarks concerning claim 8, are deemed persuasive and the examiner has withdrawn the 35 U.S.C. § 103(a) rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 9-10, and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of applicants' prior art figures 15 and 16 and windings shown on page 47 of

Kenjo et al., each in view of Marchegiani. Any of applicants' prior art figures 15 and 16 and windings shown on page 47 of Kenjo et al. disclose a stator winding, being formed of a hollow cylindrical body from approximately rhombic shaped coil segments sequentially shifted continuously to form a band. The end turns, where the wire is bent from the inside to the outside are "approximately U-shaped." Any of applicants' prior art figures 15 and 16 and windings shown on page 47 of Kenjo et al. do not expressly disclose forming turns by winding a wire sheaf of a plurality of fine wires composed of conductors bundled together. Marchegiani teaches twisting a plurality of fine wires 23 around the perimeter of a central wire 21 (also considered to be a fine wire) as shown in figure 6, for the purpose of reducing eddy currents as explained in detail on page 1 lines 4-8. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to replace the single strand of any of applicants' prior art figures 15 and 16, and windings shown on page 47 of Kenjo et al. with the stranded wires of Marchegiani. One of ordinary skill in the art would have been motivated to do this to reduce eddy currents.

Re claims 9, and 10 note that Marchegiani teach on page 2, lines 17-19 that the central core wire may be surrounded by layers of flat helically wound wires. Flat wires read on both rectangular and distorted circular section wires.

Allowable Subject Matter

Claim 8 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The limitation of twisting the helically wound wire at least one turn within a range of side in combination with the stator core formed of rhombic shaped coil segments is neither found nor fairly suggested in the prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keim in figures 1A-2B show a motor winding with a U-shaped end winding.

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Art Unit: 2834

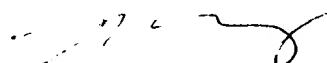
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is (703) 308-9637. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dws
May 10, 2003

A handwritten signature, likely of David W. Scheuermann, consisting of a series of loops and a final flourish.